

DIRECT SYSTEM
POST & CORE



edelweiss
DENTISTRY

beautiful innovation you can trust

Bio-Esthetics and Function in one Appointment

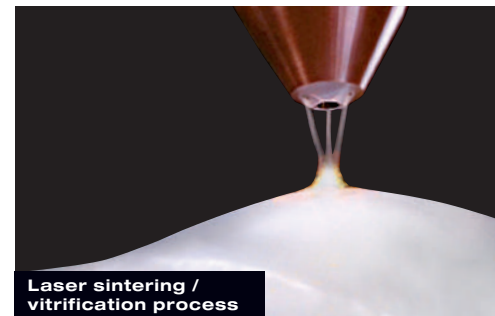
edelweiss dentistry is a dental „think tank“ that conceptualizes and produces innovative systematic solutions that are developed together with partners within the dental industry and marketed exclusively via the dental distribution network. The alliance between inspiration and technical know-how is the main focus. VENEER, OCCLUSIONVD, Pediatric CROWN and the POST & CORE system from edelweiss are state of the art for modern and minimally invasive esthetic dentistry.

For the first time in the history of dentistry, it is now possible to work with prefabricated veneers made from Nano-Hybrid Composite using modern laser technology. Never before has it been feasible to directly create the natural shape and youthful luminance of a tooth, so easily and perfectly in only one appointment. Its versatile area of application together with its time and cost saving procedure makes edelweiss VENEER, OCCLUSIONVD, PEDIATRIC CROWN and the POST & CORE SYSTEM a sound investment in the future with the best interest of the patient in mind. Convince yourself.



Stephan Lampi
CEO, Founder & Inventor
of edelweiss dentistry

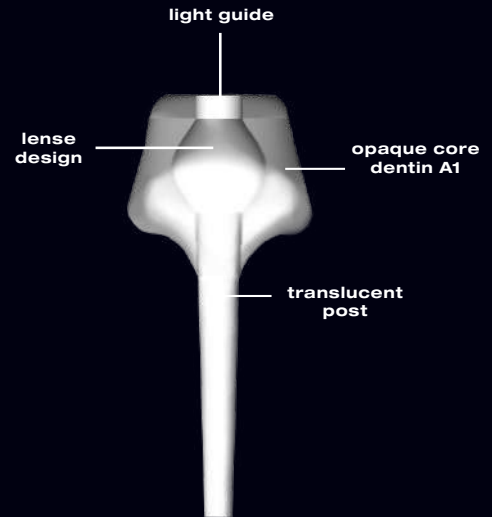
Claudio Novelli
Clinical and
Scientific Director



**Laser sintering /
vitrification process**

The Technical Concept

DIRECT SYSTEM POST & CORE



INNOVATION

The edelweiss POST & CORE system is a laser sintered monobloc designed to avoid the wedging effect. The posts have a conical shape for perfect post space adaptation. The translucency of the post allows uninterrupted light transmission for complete polymerization even at the most apical portion of the post.

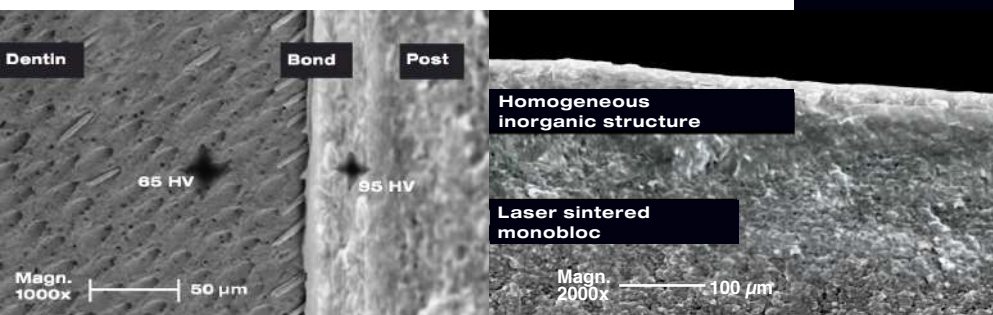
The edelweiss POST is further enhanced by a core buildup into a single monobloc which is specifically designed to mimic the natural tooth form. The opaque core buildup in Vita Shade A1 is supplied in various anatomical forms based on the natural tooth form thus simplifying the preparation procedure. Any further preparation of this core buildup will then result in a core similar to that of the natural tooth structure. The edelweiss POST & CORE's natural tooth design form enables for better retention of the final clinical crowns.

The adhesive bonding further contributes to avoiding the wedging effect by providing a single monobloc between the adhesive layer and the composite post. It is now possible to carry out the post & core placement together with the final restorative treatment in a single appointment, which is both time and cost effective for patient and dentist alike.

edelweiss POST & CORE

Although a wide variety of post & core restorative technologies and materials have been introduced into the dental market, there is no consensus on the most appropriate treatment choice for post & core systems. Prefabricated posts have good bio-mechanical and physical properties. However, they cannot be customized for optimal adaptation to the prepared post space. On the other hand, using composite resins for core material may have a higher failure rate because of the weak bonding between the prefabricated post and composite core.

To overcome all of these issues when restoring a badly broken down crown from an endodontically treated tooth, edelweiss dentistry presents a unique, single-piece, high-strength customizable composite POST & CORE system. edelweiss dentistry believes in making dentists' chairside treatment simpler, easier and more predictable.



Technical Data	POST & CORE
Flexural Strength	200 MPa
Compressive Strength	550 MPa
Flexural Modulus	20 GPa
Surface Hardness	95 HV

(Source: internal data: R&D and QM department edelweiss dentistry)

The Composition



Deepak Mehta
B.D.S, M.D.S, PhD
Bangalore, India

edelweiss POST & CORE

«The composition of the edelweiss POST & CORE is barium glass, strontium and zinc oxide (antibacterial) embedded in resin. The crystals are sintered to a monobloc which leads to perfect mechanics within the material. The flexural strength is similar to that of natural tooth. Congruent precision laser cut dental drills creates a perfectly prepared post space to suit the anatomical variations within the root canal space. edelweiss POST & CORE system is available in 3 different sizes based on the tooth position corresponding to anterior, premolar and molar regions.»

«The difference lies in the force buffer of the monobloc»

ADVANTAGES

- Prefabricated POST & CORE
- Translucent Post for periapical light polymerisation
- Innovative monobloc of post and core with A1 buildup for natural integration
- Monobloc avoids wedge effect
- Biocompatible
- Modulus of elasticity 20GPa similar to Dentin (15 - 20 GPa)
- Radio-opaque
- Cuts like dentin
- Superior adhesion to the root canal
- One session, reduced treatment time
- Time and cost effective

Anterior



Premolar



Molar



UPPER

LOWER

Anterior



Premolar

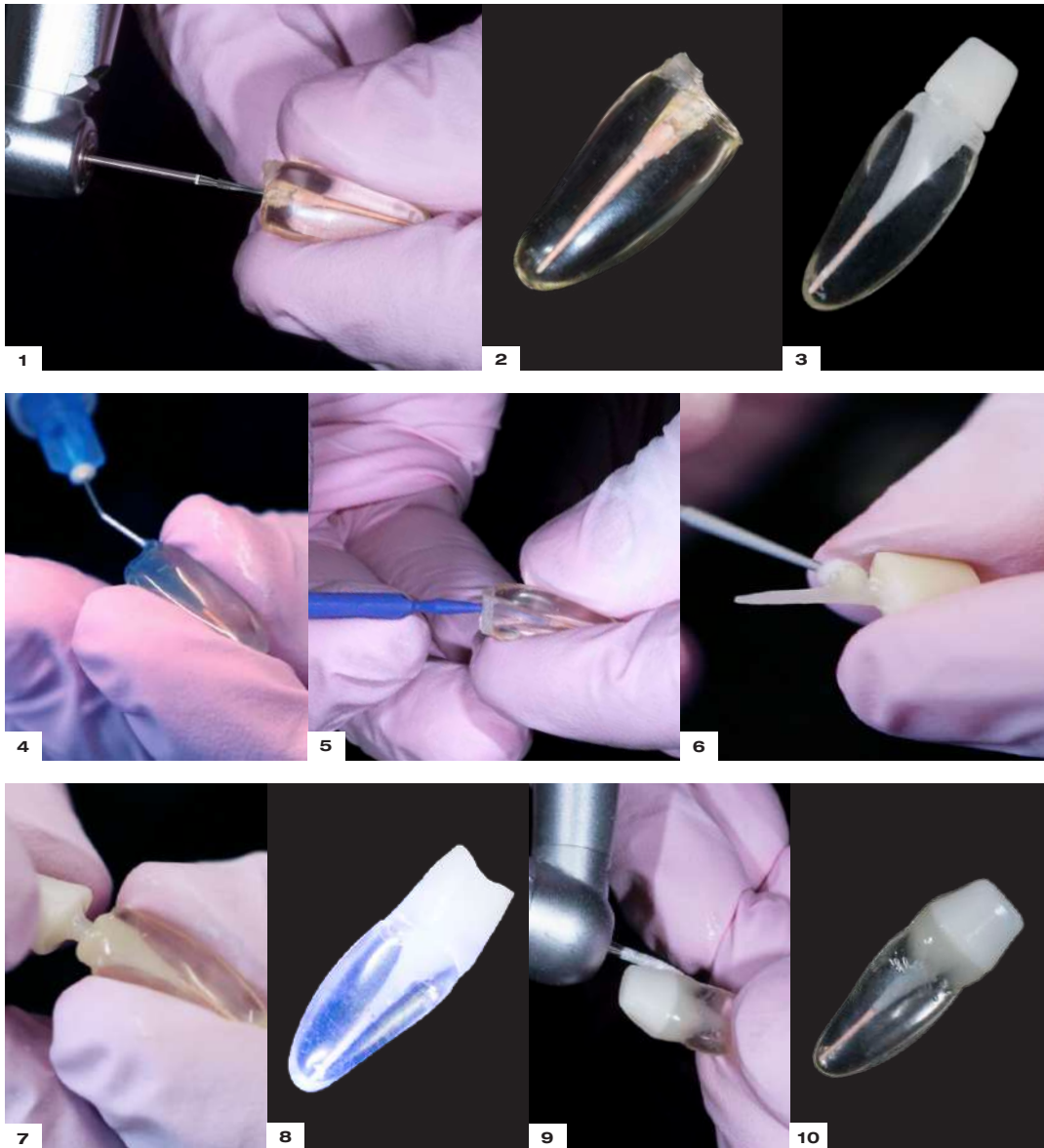


Molar



Universal post
when tooth walls remaining

DIRECT SYSTEM POST & CORE

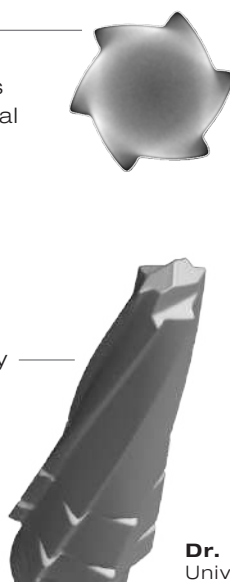


- 1 Start with precision dental drill
- 2 Prepared post space
- 3 Try in POST & CORE
- 4 Etching for 20 sec.
- 5 Post space bonding for 20 sec.
- 6 Post & Core with direct VENEER bonding for 30 sec.
- 7 Post & Core cementation using dual cure composite material, adhesive resin cements or Enamel Flowable Nano Hybrid Composite
- 8 Polymerisation for 60 sec.
- 9 Prepare the tooth as required
- 10 Post & Core monobloc restoration

EDELWEISS POST DRILL

- More cutting edges designed to improve efficiency
- Allows inward progression of drill Flutes designed to allow debris out of the canal
- Improved metallurgy
- Solid center core to maintain centrality within the canal
- Drill remains centered in canal - Law of Centrality maintained
- Allows for ideal post fit

- Tapered design to follow canal anatomy
- Additional flutes allows for dentin debris removal
- Central cutting tip to direct the drill within the canal
- Additional stepped cutting tip for enhanced cutting and shaping of post space



Dr. Desigar Moodley, CT ScanLab,
University of Stellenbosch, South Africa

The Composition

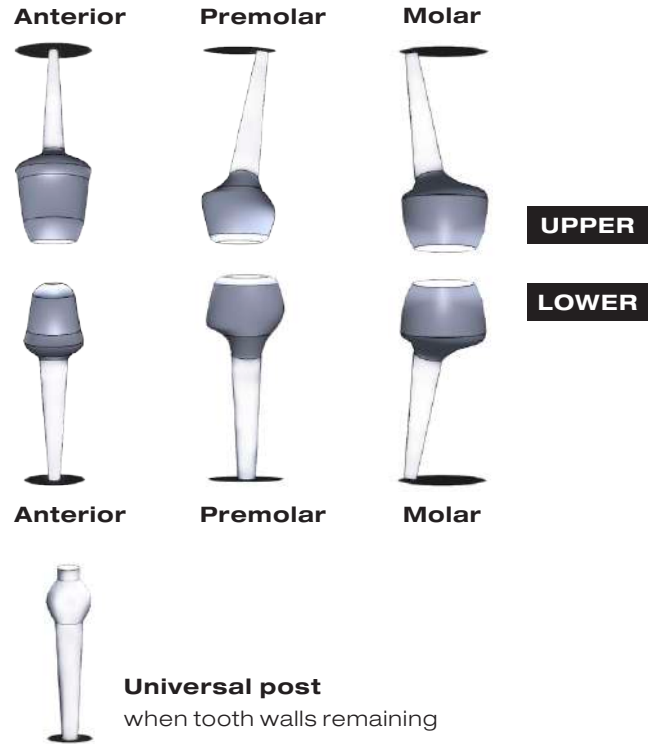


Deepak Mehta
B.D.S., M.D.S., PhD
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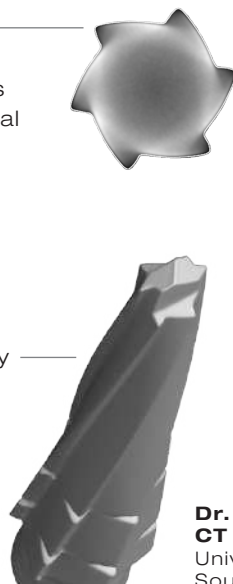
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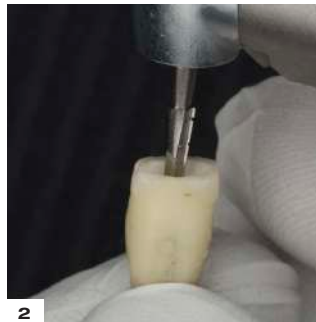


Dr. Desigar Moodley,
CT ScanLab,
University of Stellenbosch,
South Africa

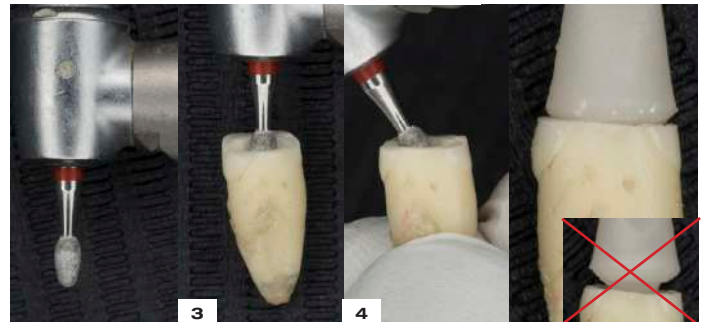
ROOT PREPARATION



1. Remove obturation material to desired length using edelweiss POST DRILL (1000rpm-2000rpm).



2. Prepare the post space to the pre-determined depth using the edelweiss POST DRILL (2000-5000rpm) with moderate pressure using water spray.

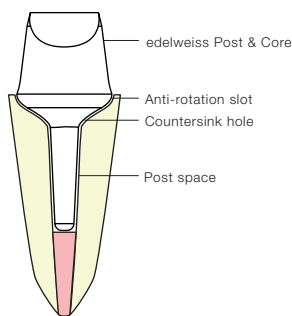


Confirm post space length with a radiograph.

3. Create a Countersink hole (about 2mm) with round/oval bur in the coronal part of the post space.

4. Using the same round/oval bur create an anti-rotation slot to allow for the core part to fit snugly into the root.

POST / ROOT PREPARATION



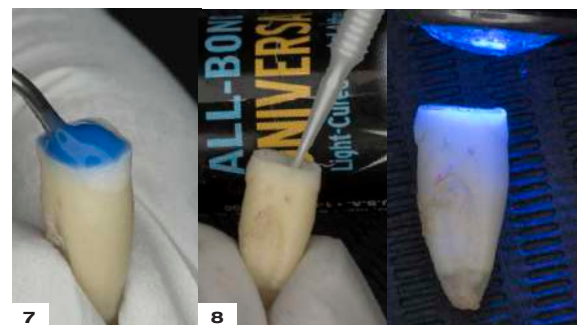
5. The corresponding size post is tried in the canal and should fit easily within the canal without binding. The core portion of the POST & CORE can be adjusted and customized using the diamond drill and made to fit within the core space extra-coronally.

Confirm post length with a radiograph.



6. Apply a thin layer of edelweiss VENEER Bond to the surface of the post, blow dry and light cure in all directions for 20 seconds.

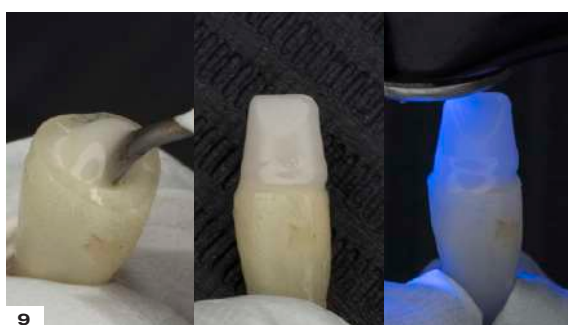
Clean or disinfect the root canal with 2.5-5% sodium hypochlorite solution (NaOCl). Rinse immediately with water and dry with paper points.



7. Etch the root canal walls with 35% phosphoric acid for 15 seconds, rinse and dry.

8. Apply primer-adhesive into the root canal with a thin micro brush/applicator tip, remove excess with paper points and light cure for 20 seconds.

POST CEMENTATION



9. Cementation using edelweiss Flowable Composite, light cure for 40 seconds in all directions.



10. Core adjustment: The core can be adjusted accordingly for the final restoration.



11. Before preparation and after cementation of edelweiss POST & CORE.

Step by Step POST & CORE



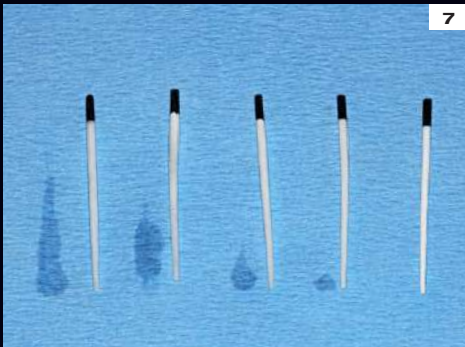
1 X-ray image: pre-operative x-ray showing root filling



2 Caries excavation done and old restorations removed



3 Precision post drill to prepare Post space



7 Changing paper points until absolute dryness



8 Try-in of the POST & CORE



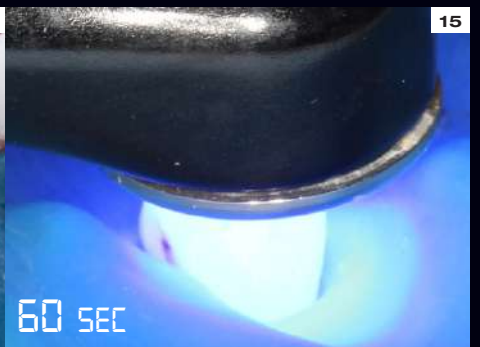
9 Application of dentin adhesive for 30 seconds



13 edelweiss Enamel Nano-Hybrid Flowable Composite applied into the post space.



14 Placing of the POST & CORE in the post space and remove excess

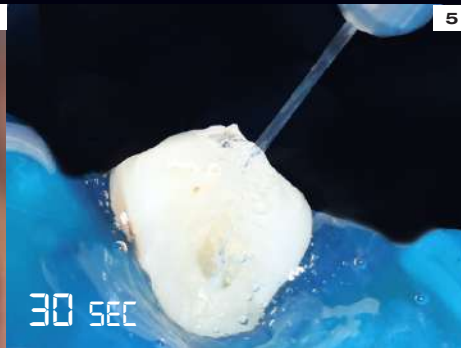


15 Curing with polymerization lamp for 60 seconds

DIRECT SYSTEM POST & CORE



Etching with 37% phosphoric acid for 20 seconds



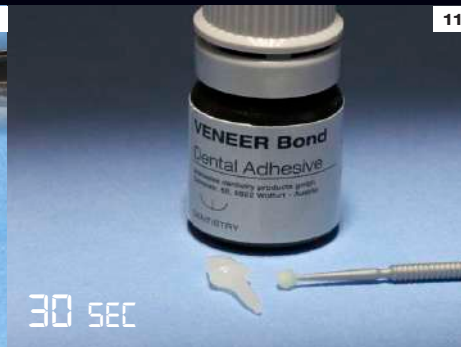
Rinsing thoroughly



Drying with paper points



Drying: beware of contamination



Bonding POST & CORE with edelweiss VENEER Bond for 30 seconds



Curing with polymerization lamp for 30 seconds



POST & CORE build-up ready for following treatment



Treatment with edelweiss VENEERS and OCCLUSIONVD



Post-operative X-ray: POST & CORE

Case study

CASE DESCRIPTION BY JESSICA J. SIDHARTA D.M.D.

Restoration with edelweiss POST & CORE, OCCLUSIONVD's and VENEERs



1.

The patient's main concern was discoloration of her front teeth which she did not want to lose. She explained that some of the front fillings were loose she would eat very carefully, to avoid losing her teeth.

On clinical examination there were numerous large discoloured composite restorations and chronic inflammation of her gingiva. The patient was truly unhappy about her oral situation resulting in a marked decrease in quality of life.

YESTERDAY

TODAY



2.

Radiographic examination revealed all existing teeth in upper jaw were previously endodontically treated, except for two canines. A thorough oral prophylaxis together with ozone treatment for better healing showed a reversal of gingival inflammation. Under local anesthetic and rubber dam placement all carious lesions were debrided and the old existing metal posts were then removed. The root canal spaces were thoroughly cleaned using ultrasonic activation and root canal disinfectants.

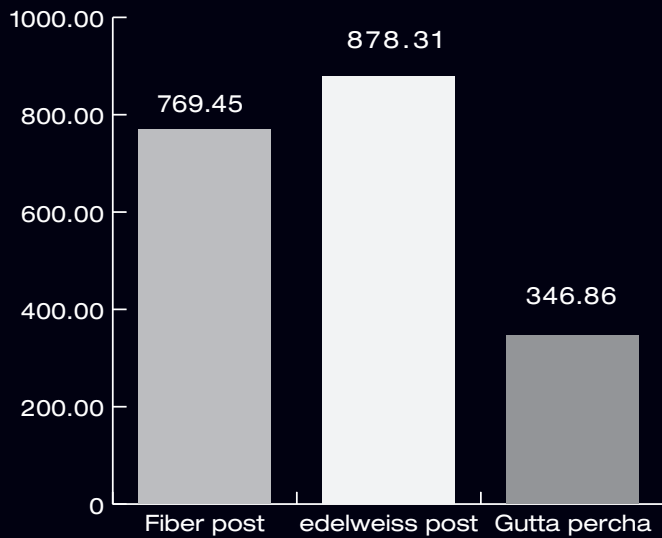
edelweiss POST Drill was then used to refine existing post spaces in preparation for the new edelweiss POST & CORE system. Following post try-in, the canal spaces were etched with 37% phosphoric acid, rinsed thoroughly and dried with paper points and prepared for post cementation. The edelweiss POST together with the CORE forms a single monobloc thus simplifying the final preparation procedure. The ease at which the core can then be prepped and refined saves chair-side time.

3.

The teeth together with the new edelweiss POST & CORE system is more stable and the patient is more confident. On completion of the treatment the patient says she can chew better. She says that her teeth feel more solid now and the possibility to eat anything that she likes is a great improvement. With the placement of the edelweiss VENEER and OCCLUSIONVD over the POST & CORE improved her esthetics dramatically. Overall she feels her quality of life has improved.

COMPARISON OF MEAN FRACTURE RESISTANCE VALUES (N)

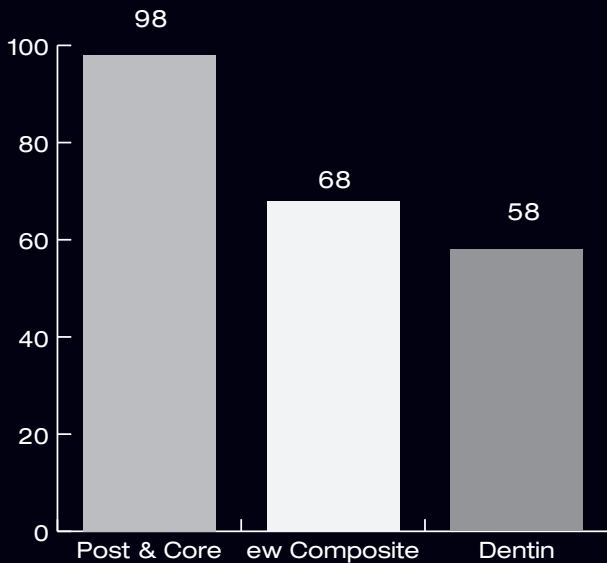
Drs. Ayesha Akhtar & Deepak Mehta, Rajiv Gandhi University, Bangalore, India



edelweiss Post & Core showed the highest Fracture Resistance compared to the fiber post. The edelweiss Post & Core System acts as a monobloc improving as physical properties.

COMPARISON OF THE DEPTH OF CURE FROM CORONAL TO APICAL REGION OF THE POST (HV)

Dr. Jessica J. Sidharta (D.M.D., C.D.T.), Ulm, Germany

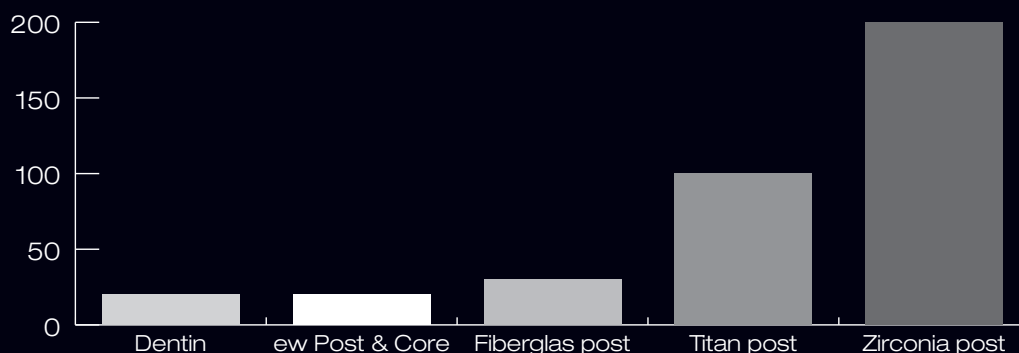


No significant difference ($p < 0.05$, ANOVA) occurred between the mean Vickers hardness values taken from coronal to apical portions of the root canal in 1 mm transverse sections.

Similar mean Vickers hardness test values along the longitudinal root sections from coronal to apical portion indicate complete polymerization of the post cement confirming complete transmission of light from the coronal part of the edelweiss post to the apical portion.

COMPARISON OF FLEXURAL MODULUS OF VARIOUS POST SYSTEMS TO DENTIN (GPA)

Dr. Jessica J. Sidharta (D.M.D., C.D.T.), Ulm, Germany

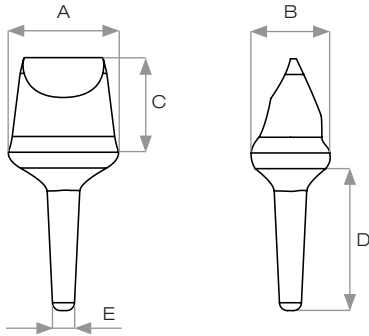


Mean Flexural modulus of different root posts compared to dentin.

edelweiss POST&CORE has similar stress-strain properties (flexural modulus) to that of root dentin.

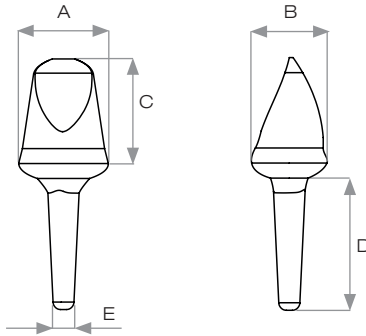
Technical Aspects & Designs

POST & CORE anterior upper



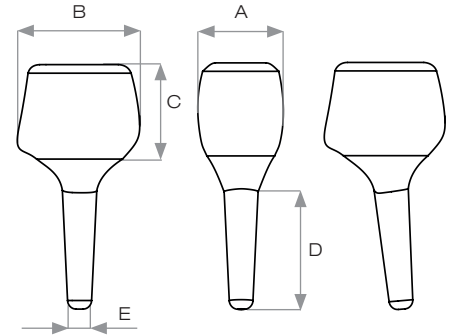
Core Dimensions	Small	Medium
A Mesial - Distal	6.0 mm	7.0 mm
B Palatal - Labial	4.0 mm	5.0 mm
C Incisocervical dimension	5.5 mm	6.0 mm
Post Dimensions	Small	Medium
D Length	8.5 mm	8.0 mm
E Diameter	1.0 mm	1.4 mm

POST & CORE anterior lower



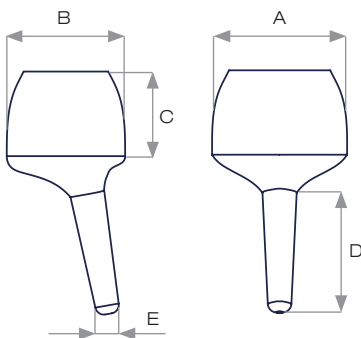
Core Dimensions	Small	Medium
A Mesial - Distal	5.0 mm	6.0 mm
B Palatal - Labial	4.0 mm	5.0 mm
C Incisocervical dimension	5.0 mm	7.0 mm
Post Dimensions	Small	Medium
D Length	9.0 mm	8.5 mm
E Diameter	1.0 mm	1.4 mm

POST & CORE premolar upper/lower



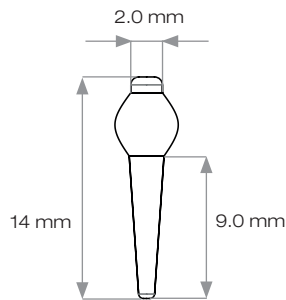
Core Dimensions	Small	Medium
A Mesial - Distal	4.0 mm	5.0 mm
B Palatal - Labial	6.0 mm	7.0 mm
C Incisocervical dimension	4.5 mm	5.5 mm
Post Dimensions	Small	Medium
D Length	8.0 mm	7.5 mm
E Diameter	1.0 mm	1.4 mm

POST & CORE molar upper/lower



Core Dimensions	Small	Medium
A Mesial - Distal	7.0 mm	8.0 mm
B Palatal - Labial	6.0 mm	7.0 mm
C Incisocervical dimension	4.5 mm	5.0 mm
Post Dimensions	Small	Medium
D Length	8.0 mm	7.0 mm
E Diameter	1.0 mm	1.4 mm

Universal Post when tooth walls remaining



Post Dimensions	Small	Medium
Length	9.0 mm	9.0 mm
Diameter	1.0 mm	1.4 mm

Translucent Post & opaque Core



Translucent Post with opaque buildup in A1 shade for complete periapical light polymerisation and similarity with nature.

Toolbox & Refills

DIRECT SYSTEM POST & CORE

REF 17000 edelweiss POST & CORE TOOLBOX



Symbolic picture

All units listed below and accessories are included in the toolbox

edelweiss POST & CORE REFILLS

				LENGHT/ DIAMETER		LENGHT/ DIAMETER
edelweiss POST & CORE	Anterior S upper	2 pcs.	REF 17001	8.5 mm / 1 mm	REF 17011	8.5 mm / 1.4 mm
edelweiss POST & CORE	Anterior M upper	2 pcs.	REF 17002	8.0 mm / 1 mm	REF 17012	8.0 mm / 1.4 mm
edelweiss POST & CORE	Anterior S lower	2 pcs.	REF 17003	9.0 mm / 1 mm	REF 17013	9.0 mm / 1.4 mm
edelweiss POST & CORE	Anterior M lower	2 pcs.	REF 17004	8.5 mm / 1 mm	REF 17014	8.5 mm / 1.4 mm
edelweiss POST & CORE	Premolar S upper	2 pcs.	REF 17005	8.0 mm / 1 mm	REF 17015	8.0 mm / 1.4 mm
edelweiss POST & CORE	Premolar M upper	2 pcs.	REF 17006	7.5 mm / 1 mm	REF 17016	7.5 mm / 1.4 mm
edelweiss POST & CORE	Premolar S lower	2 pcs.	REF 17007	8.0 mm / 1 mm	REF 17017	8.0 mm / 1.4 mm
edelweiss POST & CORE	Premolar M lower	2 pcs.	REF 17008	7.5 mm / 1 mm	REF 17018	7.5 mm / 1.4 mm
edelweiss POST & CORE	Molar S upper/ lower	2 pcs.	REF 17009	8.0 mm / 1 mm	REF 17019	8.0 mm / 1.4 mm
edelweiss POST & CORE	Molar M upper/ lower	2 pcs.	REF 17010	7.0 mm / 1 mm	REF 17020	7.0 mm / 1.4 mm
edelweiss Universal POST	upper / lower	5 pcs.	REF 17021	9.0 mm / 1 mm	REF 17022	9.0 mm / 1.4 mm

NANO-HYBRID COMPOSITE FLOW

REF 13770 Enamel Flowable 1.5 g Syringe

BONDING

REF 10521 VENEER Bond 5 ml Bottle

ACCESSORIES

REF 17023 POST space drill 1.0 mm
 REF 17024 POST space drill 1.4 mm
 REF 17025 POST prep diamond
 REF 10621 FLOW Application Tips (5 pcs.)
 Instructions for use



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DENTISTRY

beautiful innovation you can trust

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